

Please cancel claims 11 - 22 and 27 – 28 and amend claim 23 to incorporate limitations of its base claim.

1 – 10. (Cancelled)

11 - 22. (Cancelled)

23. (amended) ~~The orifice body with a mixing cavity of claim 20 further comprising:~~

For use in abrasive water jet cutting systems, an orifice body with a mixing cavity, comprising:

a. a metal body having an outer cylindrical surface and a central bore, parallel to the cylindrical surface, with an upstream direction and a downstream direction;

b. a jewel having an orifice mounted in the bore in the metal body, a portion of the central bore downstream of the jewel forming a mixing cavity; and

c. an inclined bore for abrasive material passing from the outer cylindrical surface to the central bore at an incline and joining the central bore downstream of the jewel at an angle such that abrasive material is redirected by substantially less than 90 degrees as it passes from the inclined bore to the central bore that forms the mixing cavity.

d. a rotational alignment slot in the cylindrical surface, parallel to the cylindrical surface, opposite the bore for abrasive material, extending from an upstream end of the cylindrical surface to a downstream end of the cylindrical surface.

24. (previously presented) For use in abrasive water jet cutting systems, an orifice body with a mixing cavity, comprising:

- a. a metal body having an outer cylindrical surface, with an upstream direction and a downstream direction;
- b. a central bore, parallel to the cylindrical surface;
- c. a jewel having an orifice mounted in the bore in the metal body, a portion of the central bore downstream of the jewel forming a mixing cavity;
- d. a bore for abrasive material passing from the outer cylindrical surface to the mixing cavity; and
- e. a rotational alignment slot in the cylindrical surface, parallel to the cylindrical surface, opposite the bore for abrasive material, extending from the upstream end of the cylindrical surface to the downstream end of the cylindrical surface.

25. (previously presented) The orifice body with a mixing cavity of claim 24 wherein the slot has a width approximately equal to the diameter of a pin designed to retain the orifice body against rotation.

26. (previously presented) The orifice body with a mixing cavity of claim 24 further comprising:

- d. a tapered seat formed in the metal body at a downstream end of the mixing cavity, a portion of the tapered seat forming a conical section having metal of the metal body outside of the conical section and having void inside of the conical section.

27 - 28. (Cancelled)